



UNITED STATES PATENT AND TRADEMARK OFFICE

9

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,206	03/31/2004	Angel Stoyanov	25384	9520

28624 7590 10/16/2007
WEYERHAEUSER COMPANY
INTELLECTUAL PROPERTY DEPT., CH 1J27
P.O. BOX 9777
FEDERAL WAY, WA 98063

EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
----------	--------------

1791

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

10/16/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@weyerhaeuser.com

Office Action Summary

Application No.

10/815,206

Applicant(s)

STOYANOV ET AL.

Examiner

Dennis Cordray

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/8/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's amendments, filed 8/8/2007, have overcome the rejection of Claims 1-4 and 13-16 under 35 U.S.C. 102(b) as anticipated by or obvious over Hansen et al (5589256) or Hansen et al (5789326) alone. The rejections have been withdrawn. The rejections under 35 U.S.C. 103(a) as obvious over Hansen et al ('256) or Hansen et al ('326) in view of others remain and have been amended to treat the newly added limitations.

The support cited on p 4 for the amendment reciting "cellulose fibers crosslinked with an effective amount of a polycarboxylic acid crosslinking agent" is in the background portion of the Specification and thus fails to provide support for the amendment. Adequate support was found on p 10, lines 23-25, in Example 1 on pp 11-12 and in Table 4.

The Examiner agrees that the citations in Hansen et al ('256) (Abs; col 6, lines 14-23 and 56-57) do not recite crosslinked fibers. A similar argument is presented regarding citations from Hansen et al ('326). The group of citations is intended to be taken collectively, rather than each separately teaching crosslinked cellulosic fibers comprising particle binders. In the current rejection, an additional citation is added to each group to indicate the curing temperature.

Applicant argues that the amount of binder used may not fall within the disclosed range when the binder is used as a crosslinking agent. Whether or not the polyol actually crosslinks the fibers is also irrelevant to the instant claims, which recite only that

Art Unit: 1791

the crosslinking occurs in the presence of the polyol. Hansen ('326) specifically claims sorbitol as a binder. The Declaration of Stoyanov has demonstrated that some acyclic polyols, such as sorbitol and xylitol, do not crosslink cellulosic fibers. Similar non-reactivity toward crosslinking would have been expected with saccharide and disaccharide binders, which have hydroxyl reactive functionality similar to sorbitol.

Hansen ('256) teaches that the crosslinking material can be cured in the presence of binders that do not crosslink without taking steps to inhibit ester bond formation so the crosslinking can occur without all of the binder being consumed (col 42, lines 57-60).

Absent any indication in the disclosure of either Hansen et al reference, one of ordinary skill in the art would use the disclosed amount of polyol.

Applicant argues that Hansen et al ('256) does not disclose that a polycarboxylic acid and a polyol, in combination, are used in the crosslinking of cellulose. The instant Claims require crosslinking with a polycarboxylic acid in the presence of a polyol. There is no recitation that polycarboxylic acid and a polyol, in combination, are used in the crosslinking of cellulose. Applicant also argues that the disclosures state that polycarboxylic acids can function as crosslinking agents, but does not specifically state that cellulose is crosslinked by a polycarboxylic acid in the presence of a polyol.

Hansen et al ('256) states that the crosslinking substance is a liquid solution of any of a variety of crosslinking solutes known in the art, and recites polycarboxylic acids as a suitable crosslinking agent (col 38, lines 23-36). Hansen et al ('326) makes the same statement (col 42, line 61 to col 43, line 8). The language "Curing in the presence of a binder" is specifically used (Hansen et al '256, col 42, lines 33 and 35; Hansen et al

Art Unit: 1791

'326, col 46, lines 2 and 3-4). Hansen et al ('256 or '326) thus discloses embodiments wherein the fibers are crosslinked with a polycarboxylic acid in the presence of a binder, which can be a C₂-C₁₂ polyol.

Applicant does not argue, but emphasizes that the preferred crosslinking agents of Hansen et al ('256 or '326) are urea derivatives, and that polycarboxylic acids, such as citric acid are also listed (presumably not the preferred crosslinking agents). While preferred crosslinking agents are disclosed, Hansen et al does not criticize, discredit, or otherwise discourage the use of citric acid or other known crosslinking agents.

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Applicant argues that the binder, sorbitol, recited in claims 3 and 4 of Hansen et al ('326) must be read in the context of its dependency on Claim 1, and that the combination of claims does not recite that cellulose is crosslinked by a polycarboxylic acid in the presence of a polyol and have the properties of the instant invention. The claims are part of the disclosure of Hansen et al and are read in view of the entire disclosure. One of ordinary skill in the art, reading the disclosure of Hansen et al, would have readily envisioned embodiments wherein cellulose is crosslinked by a polycarboxylic acid in the presence of a polyol, specifically sorbitol.

Art Unit: 1791

Applicant argues that there is no motivation for combining Cook et al with Hansen et al because Cook et al do not crosslink in the presence of a polyol. The motivation of reducing odor and increasing brightness of cellulosic fibers crosslinked with citric acid is disclosed (Abs; col 3, lines 29-52). The desire for whiter fibers is well known in the art for aesthetic appeal to consumers (col 3, lines 8-12) and is sufficient to motivate one of ordinary skill in the art to at least try bleaching fibers crosslinked by any method. The effects of bleaching are also well known and the results, whiter and/or brighter fibers and elimination of odors, would have been predictable.

Applicant also argues that Cook et al teaches away from crosslinking above 200 °C, which is well within the currently claimed range. Cook et al discusses the time-temperature relationship known in the art for curing of the crosslinking agent (col 13, lines 32-49). Cook et al states that temperatures below 225 °C, and preferably below 200 °C should be used.

With respect to Smith et al, Smith et al is used only to demonstrate crosslinking agents generally known to those of ordinary skill in the art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

Art Unit: 1791

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 13-17 are rejected under 35 U.S.C. 103(a) as unpatentable over Hansen et al (5589256) in view of Cook et al (5562740).

Hansen ('256) et al discloses cellulosic fibers comprising particle binders cured (crosslinked) at a temperature of about 140 °C to about 180 °C (Abs; col 6, lines 14-23 and 56-57; col 7, lines 1-3; col 38, lines 22-28; col 40, lines 62-66). The fibers can be ground wood fibers, recycled or secondary wood fibers. Polycarboxylic acid, such as citric acid, is a suitable crosslinking agent (col 38, lines 29-36). One or more particle binders can be used, such as monosaccharide and disaccharide, which are C₄-C₁₂ acyclic polyols per the definition given on p 4, lines 8-9 of the instant Specification (col 15, lines 41-45; col 16, lines 57-67; col 20, lines 34-40). The binders are added in an amount from 3-80% by weight of the fibers, particles and binders, and preferably from 3-25% by weight (col 4, lines 41-49; col 5, lines 3-6). The particles are preferably added in an amount from 5-80% by weight. A preferred weight ratio of particles to binder is 2:1 to 4:1. Thus, the amount of binder present significantly overlaps the claimed amount. The particle binders can be added before, after or simultaneously with curing (col 42, lines 31-34). Thus, in some embodiments, the fibers are crosslinked with an α -hydroxy polycarboxylic acid in the presence of a particle binder that comprises a C₄-C₁₂ polyol where the polyol is present in the claimed amount.

Where the binders can also function as an interfiber crosslinking agent (citric acid and polyols are recited as examples), the fibers should contain at least 20% by weight of water, which inhibits ester bond formation and ensures that adequate binder will remain in the fibers to bind the particles to the fibers (col 42, lines 38-57). The Declaration of Stoyanov has demonstrated that some acyclic polyols, such as sorbitol and xylitol, do not crosslink cellulosic fibers. Whether or not the polyol actually crosslinks the fibers is also irrelevant to the instant claims, which recite only that the crosslinking occurs in the presence of the polyol. In any case, Hansen ('256) also teaches that the crosslinking material can be cured in the presence of binders that do not crosslink without taking steps to inhibit ester bond formation so the crosslinking can occur without all of the binder being consumed (col 42, lines 57-60).

The upper limit of the curing temperature of "about 180 °C" is considered by the Examiner to overlap the claimed "182 °C" and even temperatures a few degrees higher. Thus the disclosed curing temperatures of Hansen et al (256) significantly overlap the claimed range or, at least, one of ordinary skill in the art at the time of the invention would "clearly envisage" crosslinking temperature within the claimed range from the disclosure of Hansen et al.

Alternatively, the relationship between time and temperature during crosslinking of cellulosic fibers is well known in the art, as taught by Cook et al ('740), col 13, lines 32-49. For instance, for temperatures from about 145°C to about 165 °C, a curing time between about 30 and about 60 minutes is sufficient; for temperatures from about 170°C to about 190 °C, a time between about 2 and about 20 minutes is used. An

Art Unit: 1791

upper limit of 225 °C is taught to prevent darkening or damaging of the fibers. It would also have been obvious to one of ordinary skill to obtain the crosslinked fibers without scorching by curing at the claimed temperatures for an appropriately shorter time than used for the disclosed temperature range.

Composite absorbent products that can be made using the fibers include diapers, sanitary napkins, incontinent pads and towels (col 42, line 66 to col 43, line 9).

Hansen et al does not disclose bleaching the fibers after crosslinking.

As discussed in previous Office Actions, bleaching is a well known process in the art for whitening pulps, papers and other substrates and hydrogen peroxide is a preferred bleach.

Cook et al discloses a method for reducing odor and increasing brightness of cellulosic fibers crosslinked with citric acid, the method comprising contacting the crosslinked fibers with a solution of sodium hydroxide in combination with an oxidizing bleaching agent (Abs; col 3, lines 29-52). The crosslinked fibers have a brightness of 80 to 86 after bleaching in an aqueous solution of sodium hydroxide and hydrogen peroxide (col 3, lines 42-52). Cook et al teaches that improved brightness has a better aesthetic appeal to customers (col 3, lines 8-12). Cook et al does not disclose bleached fibers that have a WI at least one unit greater than unbleached fibers.

The art of Hansen et al ('256), Cook et al and the instant invention is analogous as pertaining to treating polycarboxylic acid crosslinked cellulosic fibers. Hansen et al discloses cellulosic fibers crosslinked with an α -hydroxy polycarboxylic acid in the presence of a C₄-C₁₂ polyol, which is present in the claimed amount. Cook et al

Art Unit: 1791

discloses that bleaching citric acid crosslinked fibers increases their brightness to the claimed values and provides motivation to bleach the crosslinked fibers. It would have been obvious to one of ordinary skill in the art to bleach the polycarboxylic acid crosslinked cellulosic fibers of Hansen et al ('256) in view of Cook et al to increase their brightness for customer appeal and reduce odors from crosslinking. The fibers so made have a structure substantially identical to the structure of the claimed fibers. Where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent (MPEP 2112- 2112.01). It would thus have been obvious to obtain the claimed wet bulk, Whiteness Index of the unbleached fibers and the increase of Whiteness Index of the bleached fibers.

Claim 1 is a product-by-process claim. The product of Hansen et al ('256) in view of Cook et al appears to be the same as or similar to the claimed product, bleached crosslinked cellulosic fibers, although produced by a different process. The burden therefore shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). "In the event any differences can be shown for the product of claims 1-4 and 13-16 as opposed to the product taught by the references Hansen et al ('256) in view of Cook et al, such differences would have been

Art Unit: 1791

obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"

Claims 1-4, 6, 8 and 13-17 are rejected under 35 U.S.C. 103(a) as unpatentable over Hansen et al (5789326) in view of Cook et al (5562740).

Hansen et al ('326) discloses cellulosic fibers comprising particle binders cured (crosslinked) at a temperature of about 140 °C to about 180 °C (Abs; col 10, lines 26-40; col 11, lines 4-5 and 17-19; col 42, lines 29-42; col 45, lines 6-10). The fibers can be ground wood fibers, recycled or secondary wood fibers. Polycarboxylic acids, such as citric acid, and other crosslinking agents known in the art are suitable crosslinking agents (col 42, line 61 to col 43, line 14 and particularly col 43, line 8). Particle binders include polyols (sorbitol is claimed) (col 46, lines 7-15; Claims 3 and 4). The particle binders can be added before, after or simultaneously with curing (col 45, line 66 to col 46, line 3). The binders are added in an amount from 1-80% by weight of the fibrous material, and from 1-25% by weight is especially suitable (col 4, lines 49-53), which significantly overlaps the claimed amount. Thus, in some embodiments, the fibers are crosslinked in the presence of the particle binder that comprises a C₄-C₁₂ acyclic polyol, in particular sorbitol, in the claimed amount.

Where the binders can also function as an interfiber crosslinking agent (citric acid and polyols, are recited as examples), the fibers should contain at least 20% by weight of water, which inhibits ester bond formation and ensures that adequate binder will

remain in the fibers to bind the particles to the fibers (col 46, lines 12-29). The Declaration of Stoyanov has demonstrated that some acyclic polyols, such as sorbitol and xylitol, do not crosslink cellulosic fibers. Whether or not the polyol actually crosslinks the fibers is also irrelevant to the instant claims, which recite only that the crosslinking occurs in the presence of the polyol. In any case, Hansen ('326) teaches that the crosslinking material can be cured in the presence of binders that do not crosslink without taking steps to inhibit ester bond formation so the crosslinking can occur without all of the binder being consumed (col 46, lines 26-29).

The upper limit of the curing temperature of "about 180 °C" is considered by the Examiner to overlap the claimed "182 °C" and even temperatures a few degrees higher. Thus the disclosed curing temperatures of Hansen et al ('326) significantly overlap the claimed range or, at least, one of ordinary skill in the art at the time of the invention would "clearly envisage" crosslinking temperature within the claimed range from the disclosure of Hansen et al.

Alternatively, the relationship between time and temperature during crosslinking of cellulosic fibers is well known in the art, as taught by Cook et al ('740), col 13, lines 32-49. Per the discussion in the immediately preceding rejection, it would also have been obvious to one of ordinary skill to obtain the crosslinked fibers without scorching by curing at the claimed temperatures for an appropriately shorter time than used for the disclosed temperature range.

Composite absorbent products that can be made using the fibers diapers, sanitary napkins, incontinent pads and towels (col 46, lines 36-45).

Hansen et al ('326) does not disclose bleaching the fibers after crosslinking.

The disclosure of Cook et al is used as above.

The art of Hansen et al ('326), Cook et al and the instant invention is analogous as pertaining to treating polycarboxylic acid crosslinked cellulosic fibers. Hansen et al discloses cellulosic fibers crosslinked with an α -hydroxy polycarboxylic acid in the presence of a C₄-C₁₂ polyol, which is present in the claimed amount. Cook et al discloses that bleaching citric acid crosslinked fibers increases their brightness to the claimed values and provides motivation to bleach the crosslinked fibers. It would have been obvious to one of ordinary skill in the art to bleach the polycarboxylic acid crosslinked cellulosic fibers of Hansen et al ('326) in view of Cook et al to increase their brightness for customer appeal and reduce odors from crosslinking. The fibers so made have a structure substantially identical to the structure of the claimed fibers. Where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent (MPEP 2112- 2112.01). It would thus have been obvious to obtain the claimed wet bulk, Whiteness Index of the unbleached fibers and the increase of Whiteness Index of the bleached fibers.

Claim 1 is a product-by-process claim. The product of Hansen et al ('326) in view of Cook et al appears to be the same as or similar to the claimed product,

Art Unit: 1791

bleached crosslinked cellulosic fibers, although produced by a different process. The burden therefore shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). "In the event any differences can be shown for the product of claims 1-4 and 13-16 as opposed to the product taught by the references Hansen et al ('326) in view of Cook et al, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"

Claim 5 is rejected under 35 U.S.C. 103(a) as unpatentable over Hansen et al ('256) or Hansen ('326) in view of in view of Cook et al and further in view of Smith et al (US 2002/0090511).

Hansen et al ('256), Hansen ('326) and Cook et al do not disclose malic acid as a crosslinking agent. Hansen et al ('256) does teach that polycarboxylic acids are known to be crosslinking agents for cellulosic fibers and recites citric acid as an example (col 2, lines 1-4; col 38, lines 35-37). Hansen ('326) recites polycarboxylic acid as a suitable crosslinking agent and recites citric acid as an example (col 43, lines 1-8).

Smith et al discloses that citric, malic and tartaric acids are crosslinking agents for cellulosic fibers p 6, pars 71 and 74; pp 13-14, Tables 3 & 4).

Art Unit: 1791

The art of Hansen et al ('256), Hansen ('326), Cook et al, Smith et al and the instant invention is analogous as pertaining to the crosslinking of cellulosic fibers. The claimed polycarboxylic acids are all α -hydroxy polycarboxylic acids and one of ordinary skill in the art would have expected them to function similarly. It would have been obvious to one of ordinary skill in the art to use any of the claimed acids as a crosslinking agent for the fibers of Hansen et al ('256) or Hansen ('326) in view of Cook et al and further in view of Smith et al as well known and functionally equivalent options and have a reasonable expectation of success.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as unpatentable over Hansen et al ('256) in view of Cook et al and further in view of Hansen et al (5789326).

The disclosure of Hansen et al ('256) is detailed above. Hansen et al ('256) and Cook et al do not disclose the specific acyclic polyols and heterosides of the instant Claims.

The disclosures of Hansen et al ('326) and Hansen et al ('326) are used as above. Hansen et al ('256) does not disclose the specific acyclic polyols and heterosides of the instant Claims.

Hansen et al ('326) discloses crosslinked cellulosic fibers comprising particle binders having a structure similar to that of Hansen ('286). Sorbitol is specifically claimed as a binder (Claims 3 and 4) thus, in some embodiments, the fibers are crosslinked with citric acid in the presence of the particle binder that comprises a C₄-C₁₂

Art Unit: 1791

acyclic polyol, specifically sorbitol, in the claimed amount. The structure disclosed by Hansen et al ('326) is similar to that disclosed by Hansen et al ('256).

The art of Hansen et al ('256), Cook et al, Hansen et al ('326) and the instant invention is analogous as pertaining to crosslinking cellulosic fibers. It would have been obvious to one of ordinary skill in the art at the time of the invention to use sorbitol as a particle binder in the fibers of Hansen et al ('256) in view of Cook et al and further in view of Hansen et al ('326) as a functionally equivalent option and have a reasonable expectation of success. It would also have been obvious to one of ordinary skill in the art that the other claimed species of polyol (erythritol, xylitol, arabinitol, ribitol, Mannitol, perseitol, volemitol), having structures similar to sorbitol (with the number of carbon atoms and OH groups differing), would be expected to react similarly as a binder, and to use any of the species as a functionally equivalent option, having a reasonable expectation of success.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1791

Claims 1-8 and 12-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 16-17 of copending Application No. 10/748930 in view of Cook et al. The copending application recites crosslinked cellulosic fibers comprising cellulosic fibers reacted with an effective amount of crosslinking agent in the presence of an effective amount of C₄-C₁₂ polyol. The claimed structure of the fibers of the copending application differs from that of the instant application in that the crosslinked fibers are not bleached. The claims of the copending application do not exclude bleaching and so are generic to the claims of the instant application. Specifically, one embodiment anticipated by the claims of the copending application are the bleached crosslinked fibers of the instant application. Cook et al teaches bleaching crosslinked fibers and the motivation to do so. As detailed in the above rejection, the properties are a result of the structure. It would have been obvious to one of ordinary skill in the art to modify the claims of the copending application to include bleaching the crosslinked fibers of to make the fibers brighter and whiter. The composition of the crosslinked fibers is the same in both claims, thus their properties would be the same for reasons given in the above rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1791

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

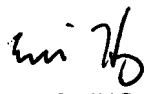
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DRC



ERIC HUG
PRIMARY EXAMINER